IN THE CLAIMS

The status of each claim in the present application is listed below.

Claims 1-40: (Canceled).

41. (New) A phase-change memory cell, comprising:

between two electrical contacts, a portion in a memory material with an amorphous-crystalline phase-change and vice versa, as a stack with an active central area located between two passive outmost areas; and

an interface between the active central area and each passive outmost area, each passive outmost area being made in a material having a melting temperature higher than that of the material of the active central area, the material of the passive outmost areas having very low solubility or zero solubility in the material of the active central area, the material of the passive outmost areas being a chalcogenide having the same chemical nature with a different composition of those of the material of the active area, the interface being inert or quasi-inert from a physico-chemical point of view even during a writing operation of the phase-change memory cell.

42. (New) The phase-change memory cell according to claim 41, wherein each passive outmost area is made in a material having a thermal conductivity less than or equal to that of the material of the electrical contact which is closest to it.

43. (New) The phase-change memory cell according to claim 41, wherein the passive outmost areas have, in a crystalline phase, an electrical resistance less than or equal to that of the active central area in a crystalline phase.

44. (New) The phase-change memory cell according to claim 41, wherein each passive outmost area is made in a material promoting a phenomenon of formation of crystalline germs in the active central area in proximity to the interface.

45. (New) The phase-change memory cell according to claim 44, wherein the material of the active central area includes between about 16% and 30% of tellurium and between about 84% and 70% of antimony, the material of each passive outmost area being antimony or antimony mixed with tellurium with a percentage ranging up to about 2%, these percentages being atomic percentages.

46. (New) The phase-change memory cell according to claim 41, wherein each passive outmost area is made in a material which is of a chemical nature different from that of the material of the active central area, this material having very low solubility in the material of the active central area.

47. (New) The phase-change memory cell according to claim 46, wherein the material of the active central area is $Ge_2Sb_2Te_5$ and the material of each passive outmost area is GeN.

48. (New) The phase-change memory cell according to claim 41, further comprising an electrically insulating material, wherein the active central area is at least partially confined laterally by the electrically insulating material.

49. (New) The phase-change memory cell according to claim 41, wherein at least one of the passive outmost areas laterally overlaps the active central area.

50. (New) The phase-change memory cell according to claim 41, wherein at least one of the passive outmost areas and the active central area coincide laterally.

51. (New) The phase-change memory cell according to claim 41, further comprising an electrically insulating material, wherein at least one of the passive outmost areas is bordered with the electrically insulating material.

52. (New) A memory including a plurality of memory cells according to claim 41.

53. (New) A method for making the phase-change memory cell of claim 41, comprising:

a) making the first electrical contact on a substrate;

b) making on the first electrical contact, the first passive outmost area, the active central area, and the second passive outmost area, these areas forming a stack with an interface, inert or quasi-inert from a physico-chemical point of view, between each passive outmost area and the active central area which is more meltable than the passive outmost areas, the material of the outmost areas having very low solubility or zero solubility in the material of the active central area;

c) achieving at least partial lateral confinement of at least the active central area with an electrically insulating material; and

d) making the second electrical contact on the stack.

54. (New) The method according to claim 53, wherein the electrically insulating material laterally also confines at least one of the passive outmost areas.

55. (New) The method according to claim 53, wherein b) and c) include, after having made the first passive outmost area:

depositing the electrically insulating material leading to the lateral confinement, on the first passive outmost area,

excavating a well in the electrically insulating material, this well having a bottom reaching the first passive outmost area,

filling the well with a layer leading to the active central area, and

making the second passive outmost area above the well.

56. (New) The method according to claim 53, wherein b) and c) include:

depositing on the first electrical contact, a first layer leading to the first passive outmost layer,

depositing on the first layer, a second layer leading to the active central area,

depositing on the second layer, a third layer leading to the second passive outmost layer,

delimiting as a column, the three deposited layers to form the stack, and

laterally coating the stack with an electrically insulating confinement material, this material leading to confinement.

57. (New) The method according to claim 54, wherein b) and c) include:

depositing on the first passive outmost layer, a layer leading to the active central area,

delimiting the active central area,

laterally coating the active central area with an electrically insulating material, this material leading to confinement, and

making the second passive outmost area on the active central area.

58. (New) The phase-change memory cell according to claim 41, wherein each passive outmost area is made in a material having a thermal conductivity less than or equal to that of the material of the active central area.

59. (New) The phase-change memory cell according to claim 41, wherein

each interface is directly between the active central area and one of the two passive outmost areas; and

the material of the active central area has undergone a phase change.